

NASA Occupational Health Program Medication Management Guidelines

Introduction

The NASA Occupational Health Program (OHP) Principal Center Office (PCO) is committed to ensuring the delivery of quality health services at NASA Center OHP clinics. In order to ensure the health and safety of its employees, the OHP clinics must follow best practices and comply with regulations in managing on site use of medication. Policies and Procedures for the control, accountability and security of all drugs used in NASA OH Clinics must be in place. The clinics must also ensure the competency of their professional staff responsible for administering medications. Additionally, emergency readiness standards and plans are a critical component to the medication management program and must be in place.

Regulations

Compliance with Federal and state regulations is essential when managing medications in the workplace. At NASA OHP clinics the Medical Director assumes responsibility for the management of the medication program. Guidelines for medication management must comply with:

- State Nurse Practice Act (defines the scope of nursing practice).
- State Medical Practice Act (addresses medications and the delegation from medical to nursing through standing orders).
- State Pharmacy Law (defines the terms of prescribing, dispensing and administering of medication and who is legally authorized to do so).
- Drug Enforcement Administration, Controlled Substances Act of 1970 and Executive Order 12564 Drug-Free Federal Workplace (regulations and laws for managing controlled substances).
- Copies of above regulations available in the clinic.

Security and Storage

The storage and security of medications in NASA OHP clinics is a key risk management function. The appropriate storage of medications will ensure their integrity and prevent their deterioration. Locking medications in secured areas is key in avoiding unauthorized access.

- Store in a secure area not readily accessible to employees, contractors or visitors.
- Store in area of constant supervision or surveillance.
- Organize and stored for easy retrieval.
- Segregate by type, i.e. topical, oral, intravenous, to minimize the risk of medication errors.
- Store by therapeutic class rather than alphabetically to minimize the potential for medication error.
- Inspect routinely for expired or deteriorated medication and checked that medications are in their designated location.
- Store according to the manufacturer's recommendations.

- Store in manner that addresses sanitation, temperature, light, moisture, ventilation and segregation issues to maintain integrity.
- Store in a refrigerator with adequate storage space.
- Store in refrigerator dedicated for medication use only (i.e., never food or biological samples).
- Monitor temperature of the refrigerator daily.
- Ensure a system to alert of a power loss to the refrigerator (i.e., such as alarm or clock set on the same circuit).
- Monitor storage and security process by periodic random audits.

Medication Administration

The medication needs of any clinic must be determined based on the scope of care provided, demographics of the workforce and nature of operative or potential risks in the workplace. There must be adequate staff qualified, competent and authorized to give medications.

Considerations for the Workplace

There are a number of workplace considerations when administering medications to workers. Many medications contain substances or compounds, such as alcohol or antihistamines, that may cause drowsiness, impair performance or potentially cause serious work-related injuries. Medication side effects such as drowsiness can impair performance including the operation of heavy equipment, driving a motor vehicle or interfering with flight operations.

- Assess the potential effects of the medication on employees' ability to perform their jobs safely.
- Maintain a current copy of *Physicians' Desk Reference* and *Physicians' Desk Reference for Non-Prescription Drugs*.
- Ensure familiarity of medications desired and undesired effects, side and toxic effects, potential interactions, and the potential allergic reactions.
- Review current or past health conditions and prescription or non-prescriptions drugs including herbal remedies with the employee.
- Consider implications to other medical conditions such as hypertension, glaucoma or diabetes.
- Provide information about the medication, and potential medication interactions.
- Promote self-care and consumer awareness about different products.

Standing Orders:

Clinical guidelines and standing orders for all medications available in the NASA OHP clinics provides a standardized approach to providing safe, quality care to employees. Such guidelines and orders establish the standards of care used for peer review and audit purposes.

- Establish for both prescription medication and over-the counter (OTC) medications available in the clinic.
- Include the drug, dosage, indications, contraindications and adverse reactions.
- Written, dated and signed by the Medical Director and Chief Nurse.

- Review, re-signed and dated annually.

Medication Administration Issues:

Prior to prescribing a medication the healthcare provider must evaluate the patient. The findings of the history and physical examination and the treatment plan must be documented in the employee's medical record. The healthcare provider must discuss the benefits versus the risks of treatment and obtain verbal or written consent from the employee for treatment. The employee's condition must be monitored until the health issue is resolved or employee's care is transferred to another healthcare provider.

- Identify the person, medication, time, dosage, route and technique prior to administering.
- Check the expiration date on the medication package.
- Ensure familiarity of the medication indications, dosages, side effects, and interactions with other medications.
- Review food or herbals, precautions to be taken and any known allergies the employee may have.
- Maintain antidotes on hand in the event of adverse reactions to the medications.
- Accept verbal orders in emergency situations; document as soon as possible.
- Verify verbal orders over the phone after they are written and repeated for the physician, and countersign as soon as possible
- Utilize manufacturer's pre-filled syringes with retractable needle.
- Provide written patient information sheets.
- Maintain a sample drugs system that allows for quick retrieval in the event of a recall.
- Utilize eye drop containers on one employee only.
- Ensure staff competency through orientation, continuing education and training.
- Provide staff education before new drug(s) added to the formulary.
- Report medication errors immediately.
- Discuss openly and share lessons learned.
- Report medication errors to risk management and quality improvement.
- Conduct root cause analysis for all medication errors.
- Target improvement in medication administration process proactively.

Medical Record Documentation

Documentation of the initial evaluation and subsequent visits must be made in the medical record. The format recommended is the subjective, objective, assessment and plan (SOAP). Medication(s) administered must be included in the documentation. Additionally, a list of all medications stocked in clinics must be maintained for prescription, emergency and controlled substances. Documentation of medications includes:

- Record dosage, frequency and amount in employee health record.
- Record patient instructions.
- Record lot number for sample medications given.

- Identify employee allergies or positively note their absence where easily visible on the medical record.
- Document on summary sheets significant health conditions, current medications and allergies.

Medication Types

Over-the-counter Medications

The stocking of over-the-counter (OTC) medications in the NASA OH clinics must be based on the needs of the Center population and the scope of occupational health services provided. They are useful in treating minor health complaints and symptoms of illness or injury. Generally, OTC medications pose a minimum risk, have a higher safety level and are more cost effective than prescription drugs.

- Ensure adequate packaging and appropriate instructions on the package labeling.
- Provide in manufacturer's original unopened container without any type of medical or pharmaceutical intervention.
- Utilize unit dose packing to minimize problems associated with repackaging and cross contamination.
- Maintain a current copy of the *Physicians' Desk Reference for Nonprescription Drug*.
- Adhere to standing orders when providing treating.

Prescription Medications

The use of prescription medications in the NASA OHP clinics is based on need, staffing and the defined scope of practice. The physician responsible for ordering the prescription medications must comply with federal and state laws. Since state laws differ, it is critical they be reviewed for compliance with practices within the clinic setting. For example, state law determines whether prescription medications can be administered per standing orders and whether a physician must be present during the administration of prescription medications. Some states require a dispensing license.

- Follow the standing orders when administering medications.
- Ensure familiarity with the drugs stocked, including the indications, contraindications, precautions, dosages, side effects and the potential adverse reactions.
- Provide employee a medication information sheet.
- Maintain a current copy of the *Physician's Desk Reference*.
- Maintain an inventory for all prescription medications including sample drugs.
- Document all medications received, administered or discarded.
- Post a sign regarding generic versus brand name drugs in the clinic.
- Prepare for emergencies since the potential exists for adverse reactions.

Cardiac Emergency Drugs

The cardiac cart must be stocked with emergency drugs recommended by the American Heart Association (AHA) treatment protocols.

- Maintain a list of drugs on the cardiac and posted along with treatment protocols.
- Locate the in an area accessible in the event of an emergency.
- Keep cart locked or have an integrity tag in place at all times.
- Record lock numbers, when used.
- Document the reason locks or integrity tags are replaced.
- Make cart readily accessible to all Advanced Cardiac Life Support (ACLS) personnel.
- Maintain an inventory of the drugs and replace drugs prior to the expiration date.
- Maintain manufacturer's documentation if drug expiration date is extended due to shortages.

Controlled Substances

Based on a needs and risk assessment there may be a need to stock a limited amount of controlled substances in the clinic. In this case it is mandatory to comply with state and Federal laws and regulations. A Drug Enforcement Administration (DEA) certificate is required when dispensing or administering controlled substances. A physician must be licensed in the state of practice to obtain the DEA. The DEA certificate must be posted with the clinic practice address on it.

- Maintain an inventory log showing the drugs received, administered or disposed.
- Include the name and address of the physician, the DEA registration number, date and time of inventory.
- Conduct the inventory with a witness; both physician and witness must sign the inventory.
- Document each dispensing transaction.
- Include the name of the employee, their social security number, name of the drug, quantity prescribed, dosage, date dispensed, the physician prescribing and the signature of the healthcare provider dispensing the drug in the inventory.
- Retain the inventory and transaction log for a period of two years.
- Provide the inventory for inspection to the Board of Medical Examiners when requested.
- Store controlled substances securely locked, preferably double locked and substantially constructed cabinet or safe.
- Maintain a minimum amount of stock in the inventory.
- Restrict access to drugs to key healthcare personnel only.
- Report any missing drugs to the DEA, notify the police, Center Medical Director, risk manager, Center Director, Security and the NASA OHP Medical Director.

Immunizations

As service of the NASA OHP, immunizations are offered to employees to protect them from vaccine-preventable disease. The need for vaccines is based on the employee's occupation, lifestyle and health status. Assessment of an individual's risk for vaccine preventable communicable disease must be made during health maintenance examinations, medical surveillance examinations and in preparation for international travel. Vaccines, such as influenza, may be provided as part of health promotional

campaigns. Prior to the administration of vaccines, clinical guidelines and standing orders must be in place.

- Complete a review of immunization history.
- Determine vaccines needed.
- Complete an assessment of overall health status including any possible allergies, existing pregnancy and immunocompromised status.
- Document the immunization history, if not previously documented, and employee's current health status.
- Review the vaccine indications, contraindications, precautions, dosages, side effects, and potential adverse reactions.
- Ensure completion of informed consent.
- Administer vaccine per standing orders utilizing proper aseptic technique.
- Provide a copy of the CDC Vaccine Information Statement for the vaccine(s) administered.
- Document vaccine given, manufacturer, lot number, location of injection site, date and time given, any reactions and due date of next vaccine are also documented in the record.
- Report any adverse reaction to a vaccine to the CDC's Vaccine Adverse Event Reporting System (VAERS).
- Send a copy of the CDC VAERS form to the NASA OHP Medical Director.
- Store and dispose of vaccines according to the manufacturer's recommendations.
- Prepare for emergencies since the potential exists for adverse reactions.

Allergy Injections

The NASA OHP supports the administration of allergy injections as a convenience for employees. Individual clinic decisions to offer this level of service should be based on the service volume, adequate staffing, emergency readiness and willingness to accept responsibility and accountability for potential adverse reactions.

- Maintain written policy, procedures and standing orders.
- Require a written physician's order for allergy injection administration requests.
- Require order to contain employee's name, physician's name, address and phone number and the type of sera with the dosages, frequency, and procedures to follow if dosage or timing is missed.
- Require a signed informed consent form prior to beginning injection series.
- Store Sera a refrigerator containing only medications.
- Utilize safe and aseptic practices when administering injections.
- Require employee to remain in the clinic for 20 to 30 minutes for observation.
- Require employees to receive the first two allergy injections from treating physician.
- Require employee resuming allergy injections after a four-month lapse to receive the first two injections from treating physician.
- Require any employee with history of serious or anaphylactic reaction to see treating physician.
- Prepare for emergencies since the potential exists for adverse reactions.

Emergency Readiness

Emergency readiness is absolutely essential when offering allergy injections, vaccines and other medications.

- Require staff administering the vaccines or injections Advanced Cardiac Life Support (ACLS) certified.
- Require a physician, certified in ACLS, to be present when injections or vaccines are administered.
- Ensure emergency procedures are in place and emergency equipment and medications readily available.
- Maintain oxygen and adrenaline available in the treatment room.
- Post emergency telephone numbers near the telephone.

REFERENCES

Accreditation Association for Ambulatory Health Care

Executive Order 12564 Drug-Free Federal Workforce

Joint Commission on Accreditation of Healthcare Organizations

NASA NPD Control of Narcotics and Other Regulated Drugs

Physicians Desk Reference 2000

Physicians Desk Reference For Nonprescription Drugs 2000

Physicians Manual: An Informational Outline of the Controlled Substance of 1970

Randolph, Susan A. (1996). Medication Management in the Workplace. *AAAOHN Journal*, 44(10), 508-512.

Rogers, B., Randolph, S. A. and Mastroianni, K. (1996). *Occupational Health Nursing Guidelines For Primary Clinical Conditions*. Beverly Farms, MA: OEM Press.

The Institute for Safe Medication Practices